

L 6833-65 EWT(1)/EWA(b) AMD/Pa-1; JK

ACCESSION NR: AP4039939

S/0016/64/000/005/0142/0143

AUTHOR: Milyutin, N. G.; Vedeneva, N. I.; Guz, A. B.

TITLE: Investigation of tularemia natural foci of the floodplain-marshy type in the Poltavskaya Oblast

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 5, 1964, 142-143

TOPIC TAGS: tularemia, epidemic control, tularemia natural focus, Sula River floodplain, Poltavskaya Oblast, water rat, F. tularense culture

ABSTRACT: The tularemia cases reported for the Poltavskaya Oblast since 1934 have been transmitted mostly by water rats found near the Sula River and its tributaries. The existence of tularemia natural foci in the Sula River floodplains was confirmed in 1959 when three F. tularense cultures were isolated from the spleens of 150 water rats taken from a Sula River floodplain in the Orzhitskiy Rayon. Titers of all three cultures proved highly virulent. In tests on white mice

all three cultures proved highly virulent. In tests on white mice infected with doses containing 0.1, 1, and 10 bacteria cells, all animals died on the 5th or 6th day displaying all the characteristic

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tularemia pathological changes. In 1960-61 water from the Kremenchug reservoir flooded large areas near the Dnieper and Sula Rivers and greatly reduced the natural foci area. The most potentially dangerous parts of the Poltavskaya Oblast at present are the areas near the Sula River in the Orzhitskiy, Lubenskiy, and Obolonskiy Rayons which have high population densities and great numbers of water rats. Prophylactic measures for these rayons should include a water rat trapping program in addition to mass vaccination and other control measures. Orig. art. has: None.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet i Khar'kovskaya oblastnaya sanitarno-epidemiologicheskaya stantsiya (Kharkov State University and Kharkov Oblast Sanitary-Epidemiological Station)

"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R001134330

STATE UNIVERSITY AIR MAIL BOX COVER

SUBMITTED: 15Apr63

ENCL: 00

SUB CODE: LS

NR REF SOV: 000

OTHER: 000

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APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R001134330C

MILYUTIN, N.G.

Distribution and structure of natural foci of tularemia in
the left-bank forest steppe and adjacent steppe districts of
the Ukraine. Trudy Ukr. resp. nauch. ob-va paraz. no. 3:
277-286 '64 (MIRA 19:1)

1. Khar'kovskiy gosudarstvennyy universitet.

MILYUTIN, N. N.

4

Chem
+
Met

10355* (Russian.) Rate of Cd Oxidation in Nitric Acid
O skorosti oksleniia medi v azotnoi kisloie. N. N. Milyutin
and A. I. Shultin, Zhurnal Prikladnoi Khimii, v. 30, Jan. 1957,
p. 58-62.
Oxidation rates in HNO₃ of various concentrations is expressed
quantitatively by the equation: $\log k = -0.195 + 0.050 \ln c$.
Increase of temperature accelerates the oxidation process

DM MT

MILYUTIN, N. N.

²
~~Oxidation of copper in aqueous solutions of potassium~~
~~permanganate in sulfuric acid.~~ N. N. Milyutin and A. I. Shultin. *Zhur. Priklad. Khim.* 30: 949-52 (1957) of C. A. 51, 10207c. — The rate v of soln. of Cu in solns. of $K_2Cr_2O_7$ in $N H_2SO_4$ was detd. at 25° as a function of the potential. In the concn. range of 0.011–0.100 M $K_2Cr_2O_7$ the potential rose within the first 2–3 min. and then became stationary, ϕ . In the concn. range of 0.200–0.440 M the potential dropped rapidly during the first 10–16 min. to ϕ . The plot of $\log v$ vs. ϕ for dil. solns. (up to 0.100 M) was a linear function expressed by $\phi = 0.185 + 0.056 \log v$ which

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CIA-RDP86-00513R001134330C

MILYUTIN, N.N.

Electrochemical behavior of copper in alkaline solutions. Zhur.-
prikl.khim. 35 no.6:1322-1328 Je '62. (MIRA 15:7)
(Copper) (Electrochemistry)

SHULTIN, A.I.; MILYUTIN, N.N.

Passivity of metallic materials. Zhur. prikl. khim. 37 no.6:1261-
1267 Je '64. (MIRA 18:3)

PAPUSHIN, L.L.; BEYZER, V.N.; MILYUTIN, O.M.

Investigating rock disintegration by sogginess. Koks i khim. no.11:
12-14 '63. (MIRA 16:12)

1. Yasinovskiy koksokhimicheskiy zavod.

MILYUTIN, O.M.; BOBYLEV, N.P.

Industrial testing of the GRK-82 resonance screen. Koks i khim. no. 11:
21-23 '63. (MIRA 16:12)

1. Yasinovskiy koksokhimicheskiy zavod.

L 10901-67 EWT(1)/EWP(9)/EWT(m)/FCC DS/WW/RO/GW/WH

ACC NR.

AR6033091

SOURCE CODE: UR/0269/66/000/007/0030/0030

33

AUTHOR: Livshits, G. Sh.; Pavlov, V. Ye.; Milyutin, S. N.

TITLE: Absorption of light by atmospheric aerosols

SOURCE: Ref. zh. Astronomiya, Abs. 7.51.197

REF SOURCE: Tr. Astrofiz. in-ta. AN KazSSR, no. 7, 1966, 85-90

TOPIC TAGS: aerosol, light absorption, optic thickness, scattered light, light intensity

ABSTRACT: A laboratory method of separating the optic thickness of scattering .. and absorption which does not require the measurement of indicatrices has been developed. Past and scattered light is registered. The ratio of this sum to the incident luminous flux represents the coefficient of layer transparency which characterizes the extinction caused by pure absorption. An Ulbricht sphere is used in the system of the light collecting element. Light intensity in the visible and IR regions was registered by photomultipliers through interference filters. Absorption in aerosols was calculated during multipole reflection of light from the sphere. Particles of soot, lava, meteorites, graphite, clay, sand, etc., have

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been investigated. The presence of sand, clay, cement, or room dust does not cause a noticeable increase in pure absorption. Soot and coal cinder possess high values of pure absorption. Growth of pure absorption with decrease in wavelength is typical for many aerosols. The Forbes effect and the shallow absorption band in the blue part of the daylight sky spectrum may be caused by this growth.
V. Zhuravlev. [Translation of abstract]

SUB CODE: 03/

Card 2/2

MILYUTIN, S.V.

MILYUTIN, S.V., assistant

Electric rheostat braking on railroad motor cars. Sbor. LITZHT
no. 145:98-112 '53. (MIRA 8:10)

(Railroad motorcars--Brakes)

MILYUTIN, S.V., inzhener.

Calculation of self-excitation characteristics of electric locomotive engines under conditions of rheostat braking. Sbor. LITIZHT no. 149:19-34 '55. (MIRA 9:6)

(Electric motors) (Electric locomotives)

MILYUTIN, S.V.

105-56-5-24/28

AUTHOR: Sergeyev, A.S., Docent

TITLE: Dissertations (Dissertatsii)

PERIODICAL: Elektrichestvo, 1958, Nr 5, pp. 91-91 (USSR)

ABSTRACT: For the Degree of Candidate of Technical Sciences.
At the Leningrad Institute for Economic Engineering (Leningradskiy inzhenerno-ekonomicheskii institut)
L.F.Sheykhman on April 27, 1954 "Selection of a Rational System for the Electric Equipment of Industrial Plants". Official opponents: V.V.Bolotov, Professor, Doctor of Technical Sciences and V.S.Ravdonin, Docent, Candidate of Technical Sciences.
At the Leningrad Electrotechnical Institute for Signal- and Telecommunication Engineers (Leningradskiy elektrotekhnicheskii institut inzhenerov signalizatsii i svyazi)
M.I.Radovskiy on May 10, 1946 "Werner Siemens and the Discovery of the Principle of Self-Excitation". Official opponents: M.A.Shatelen, Professor, Corresponding Member AS USSR, V.F.Mitkevich, Member AS USSR, and D.I.Kargin, Professor, Doctor of Technical Sciences.

Card 1/4

105-58-5-24/28

Dissertations

At the All-Union Scientific Research Institute for Metrology imeni Mendeleyev (Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. Mendeleyeva)

M.S.Kayander on June 9, 1950 "Studying the Conditions for the Increase of the Accuracy of Electrodynamic Equipments at Higher Frequencies". Official opponents: A.D.Kratirov, Professor, Doctor of Technical Sciences and I.G.Rusakov, Docent, Candidate of Technical Sciences.

A.D.Sokolov on May 7, 1954 "Experience Gathered with Respect to the Control of the Electromagnetic Properties of Dynamo- and Transformer Steel". Official opponents: N.N.Razumovskiy, Professor, Doctor of Technical Sciences and N.G.Chernysheva, Candidate of Technical Sciences.

At the Leningrad Institute of Mining imeni Plekhanov (Leningradskiy gornyy institut im. Plekhanova)

V.S.Belovidov on June 30, 1953 "On the Selection of an Electric Drive for Pit Ventilators". Official opponents: F.N.Shklyarskiy, Professor and A.V.Rys'yev, Docent, Candidate of Technical Sciences.

At the Leningrad Institute for Railroad Engineers imeni Obraztsov (Leningradskiy institut inzhenerov zheleznodorozhnogo transporta im. Obraztsova):

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105-58-5-24/28

Dissertations

N.V.Bokov on July 1, 1948 "Means and Ways of Reducing Costs for the Contact Network of Electric Railroads". Official opponents: A.Ye.Kaplyanskiy, Professor, Doctor of Technical Sciences and V.A.Belyakov, Docent, Candidate of Technical Sciences.

V.A.Glebov on July 5, 1950 "Dynamical Maximum Loads in Systems with Transportable Railroad Electric Power Plants of Low Power Output". Official opponents: N.P. Yermolin, Professor, Doctor of Technical Sciences and Yu.A.Reyngol'dt, Docent, Candidate of Technical Sciences.

K.K.Sheleshkov on July 5, 1950 "On the Problem of the Experimental Investigation of Non-Steady Processes in Power Current Circuits of D.C.Locomotives". Official opponents: A.Ye.Kaplyanskiy, Professor, Doctor of Technical Sciences and I.D.Levashov, Engineer.

L.K.Sveshnikova on July 5, 1950 "The Supplying of Railroad Depots of Electrified Lines with Electric Power from the D.C.Contact Network" Official opponents: D.A.Zavalishin, Professor, Doctor of Technical Sciences and V.I.Drozdov, Docent, Candidate of Technical Sciences.

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Dissertations

105-58-5-24/28

G.A.Ansberg on March 5, 1953 "The Protection of Power Current Circuits in D.C. Locomotives Against Excessive Loads and Short Circuits". Official opponents: M.A.Petrov, Professor, Doctor of Technical Sciences and N.D.Traymund, Docent, Candidate of Technical Sciences.

S.V.Milyutin on January 23, 1954 "On the Application of Electric Resistance Braking on Self-Propelled Rail Car Sections". Official opponents: V.Ye.Rozenfel'd, Professor, Doctor of Technical Sciences and V.F.Tabachinskiy, Docent, Candidate of Technical Sciences.

AVAILABLE: Library of Congress

1. Scientific reports--USSR
2. Electrical equipment--USSR
3. Electrical equipment--Materials
4. Electrical networks--USSR

Card 4/4

SIDOROV, N.N., kand.tekhn.nauk, dots.; MILYUTIN, S.V., kand.tekhn.nauk

Conversion of d.c. traction motor characteristics for a modified
field. Sbor.LIIZHT no.159:124-127 '58. (MIRA 12:2)
(Electric railway motors)

ROTANOV, Nikolay Alekseyevich, kand. tekhn. nauk; ZAKHARCHENKO,
Dmitriy Dmitriyevich, kand. tekhn. nauk; GORCHAKOV,
Yevgeniy Vasil'yevich, kand. tekhn. nauk; FLAKS,
Aleksey Vladimirovich; MILYUTIN, Semen Vasil'yevich,
kand. tekhn. nauk; NEKRASOV, Vladimir Ivanovich, kand.
tekhn. nauk; GORCHAKOVA, O.D., rtd.

[Design of rolling stock control systems of electric rail-
roads] Proektirovanie sistem upravleniia podvizhnym sosta-
vom elektricheskikh zheleznnykh dorog. Moskva, Transport,
1964. 350 p. (MIRA 17:12)

3

Secondary electron emission under the action of two electron beams. Yu. M. Kushnir and V. I. Milyutin. *J. Tech. Phys. (U. S. S. R.)* 9, 207-70 (1979). Ag, Ag₂O and Ag-Ag₂O-Ca cathodes were simultaneously bombarded by 2 electron beams of different velocities. The intensity of the secondary emission showed that the effect of both beams was additive for the Ag and slightly less than additive for the other cathodes. I. I. R.

ASB-13.4 METALLURGICAL LITERATURE CLASSIFICATION

MA

The Secondary Electron Emission of Mercury. Yu. M. Kushnir, V. I. Malyutin, and V. P. Goncharov (*Zhur. Tekhnich. Fiziki* (J. Tech. Physics), 1939, 9, 1589-1591; *Chem. Zentr.*, 1940, 111, (1), 988).—[In Russian.] The secondary emission was investigated at 5, -90, and -196° C., and the primary radiation between 100°-1200° C. The results show no difference in secondary emission between the solid and the liquid mercury, and no temperature dependence.

1443

Jul 49

USSR/Physics
Electron Microscope

"The Emission-Electron Microscope," V. I. Milyumin, 33 pp

"Uspekhi Fiz Nauk" Vol XXVIII, No 3

Discusses brief historical resume of Soviet efforts on electron microscopes; fundamental principles governing the operation of the emission microscope, explained by diagrams and graphs and by formulas; its peculiarities, "immersion" objective resolving power; details of construction concerning the electrostatic and magnetic systems (diagrams and photographs) 64/497109

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USSR/Physics (Contd.)

and the incandescent cathode; investigation of the crystal structure of metals by means of the electron microscope (microphotographs); photoeffect; obtaining electron-optical pictures at atmospheric pressure; foreign, Russian and Ukrainian sources.

64/497109

PA 64/497109

IXUMIN, V. I.

VAYNERB, Ye.A.; MILYUTIN, V.I.; ZHIGAREV, A.A., redaktor; BABOCHKIN, S.N.,
tekhnicheskly redaktor

[Electronic optics] Elektronnaia optika. Moskva, Gos.energ.izd-vo,
1951. 239 p. (MLRA 10:10)
(Electron optics)

1. VAVILOV, V. S.; MILYUTIN, V. I.

2. USSR (600)

4. Miliutin, V. I.

7. "Electro-optics." ^{→ MILYUTIN, V. I.} Reviewed by V. S. Vavilov. Sov. Kniga No. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January, 1953. Unclassifi

MILYUTIN, V.I.

LEBEDEV, A.A., akademik, redaktor; MILYUTIN, V.I., redaktor; TUMARKINA,
B.A., tekhnicheskiiy redaktor

[Electron microscopy] Elektronnaia mikroskopiia. Pod red. A.A.
Lebedeva. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1954. 636 p.
(Electron microscope) (MLRA 7:10)

MILYUTIN, V. I.

AUTHOR: Fetisov, D.V. and Milyutin, V.I.

109-4-14/20

TITLE: Asymmetry of the Optical System of an Electrostatic Microscope and its Resolving Power. (Asimmetriya opticheskoy sistemy elektrostaticheskogo mikroskopa i yego razreshayushchaya sposobnost')

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.2, No.4, pp. 488 - 493 (USSR)

ABSTRACT: An experimental investigation of the effect of the asymmetry of a lens and of the asymmetry of a system of lenses on the resolving power of an electrostatic microscope is described. The experiments were carried out on the Soviet-made microscope, type 3CM-50, which was specially adapted for the investigation; this instrument was described by the author in an earlier work (see Ref. 4). The investigated lens consisted of three diaphragms; the middle diaphragm could easily be removed and its axial position could be changed with respect to the remaining diaphragms. The resolving power of the microscope was first measured as a function of the radial asymmetry (ellipticity) of the aperture of the middle diaphragm. The asymmetry was defined as the difference Δa between the maximum and the minimum diameters of the aperture. It was found that for Δa up to 4μ , the resolving power δ is constant and equal to about 60 λ : for

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MILYUTIN, V.I.

109-5-17/22

AUTHOR
TITLE

PERIODICAL
ABSTRACT

FETISOV, D.V., MILYUTIN, V.I.
Adjustment of an Electrostatic Microscope
(K yustirovke elektrostatičeskogo mikroskopa. Russian)
Radiotekhnika i Elektronika, 1957, Vol 2, Nr 5, pp 653 - 658 (U.S.S.R.)

With reference to the work of the author in the last issue (Radio-
tekhnika i Elektronika 1957, Vol 2, Nr 4, pp 488 - 493) he investigates
in this work the single stages of the adjustment of an optical system
of a microscope. 1.) The centering of the electrodes of electrostatic
lenses. It is most purposeful to center outside the microscope column
the centers of the lens-electrode apertures are fixed to the rotation
axis of the lens body by means of an optical microscope. He then de-
scribes the method developed by A.G. ZAVRAZHIN, for obtaining a rota-
tion of the lens body. 2.) Adjustment of the microscope lenses. It
is most useful to displace the first projection lens (intermediary
lens). First the illumination system with the rigidly fixed objective
and the second projection lens is adjusted while the intermediary
lens is switched off. Then follows the intermediary lens and the ax-
is of the electron bundle is introduced. 3.) Adjustment of the illumina-
tion system of the microscope. The variety where the cathode and the
illumination system are displaced as a whole is the most useful of
the four mentioned. 4.) The adjustment of the microscope as a whole

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109-5-17/22

Adjustment of an Electrostatic Microscope

Here a method is recommended which is based on the change of the field-tension of the objective. This method was tried with the microscope ESM-60 and showed that the control of the adjustment as well as the adjustment itself can be carried out during operation of the microscope without any disturbing effect. It is sufficient if for this purpose an additional graduator with a discharger, or a special slab are introduced into the scheme. (With 8 illustrations and 1 Slavic reference).

ASSOCIATION
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Not given

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1116Y4111, 1111
"Electrostatic Analyzer of Electron Velocities," by V. I. Milyutin and A. M. Kabanov, Uspekhi Fizicheskikh Nauk, Vol 61, No 4, Apr 57, pp 673-698

This article, which has the subtitle, "New Devices and Methods of Measuring" gives the principles, the various circuits, the areas of application, and several test results for an electron velocity analyzer. The

article is divided into 9 parts, as follows: (1) introduction, (2) the functioning principle of the analyzer, (3) experimental devices, (4) dispersion and resolving power of the analyzer, (5) analyzer lens, (6) results of an analysis of electrons passing through a substance compared with theory, (7) energy analysis according to the images of diffracted electrons, (8) analysis of electrons reflected from a substance, and (9) analysis of electrons according to velocities in cathode rays.

Numerous photographs and illustrations are included in the article, as well as graphs of the results obtained. (U)

Sum in 1451

AUTHORS: Milyutin, V.I., Fetisov, D.V., Raspletin, K.K., 32-1-38/55
Spektor, F.U., Pochtarev, B.I.

TITLE: Simplified Electrostatic Electron Microscope (Uproshchenyy elektrostatcheskiy elektronnyy mikroskop).

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 1, pp. 92-96 (USSR)

ABSTRACT: In this paper the model of the simplified electrostatic microscope for 45 kV (MЭМ-45) is described. The apparatus consists of two separate parts: the microscope proper with feeding device (700x500x1400 mm) and the vacuum apparatus (700x400x1150 mm). The efficiency of the apparatus amounts to 50-60 Å, while 1500 to 8000-fold electron-optical enlargement is attained in four steps by the potential modification of an intermediary lens. The field of observation has a diameter of 62 mm. The apparatus makes it possible to deal with 5 samples, one after the other, and to take 10 photographs (including stereophotographs), without hereby disturbing the vacuum. By means of this microscope it is also possible to take diffraction- and emission pictures of heated objects. In this case the cathode is replaced by the sample, and another anode

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Simplified Electrostatic Electron Microscope

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is fitted. In the case of the diffraction picture, a number of lenses is taken out. In the vacuum plant the diffusion pump "MM-40-A" and the pre-vacuum pump "BH-461" are fitted. The same device can also be used as a vacuum atomizer, for which purpose it is fitted out with various additional devices. The feeding device of the microscope consists of: 1 rectifier for 50 kV, a device for regulating cathode heating, a voltage regulator, a control board for the microscope and the vacuum plant as well as of the additional devices. (The following additional devices are mentioned: a "Tesla" transformer, a voltage stabilizer, etc.). There are 6 figures and 1 Slavic reference.

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Card 2/2 1. Electrostatic microscope-Nomenclature

AUTHOR: Milyutin, V. I. SOV/53-65-4-5/13

TITLE: Interference of Electron Waves (Interferentsiya elektronnykh voln)

PERIODICAL: Uspekhi fizicheskikh nauk, 1958, Vol 65, Nr 4, pp 665 - 688 (USSR)

ABSTRACT: In the present work the author gives a survey of the experimental possibilities to realize electron interference as well as of the possibilities of practical application of the interference phenomena. It turns out that under various experimental conditions it is possible to realize an interference of electrons. The electron wave lengths found in these interference experiments agree with those determined by De Broglie (Broyl) except for an error of $\pm 0.5\%$. A photo-optical analogy exists for the interference experiments with electrons. The first attempts to employ the same experimental arrangements as used for light optical experiments also for electron interference experiments were successful. The problem of the coherence of electron waves was investigated too. A few interference bands were observed. In the case of path

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Interference of Electron Waves

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differences of a few 1000λ it is possible to obtain interference. A possibility for the practical application of electron interference was found; the first two models of types of electron interferometers are described. The first one is based upon electron diffraction in thin crystal layers, the latter one upon the application of the Fresnel (Frenel) double prism. According to the latter method an electron interference microscope was constructed. The author predominantly uses foreign sources. Russian research workers mentioned in the paper are: G.S.Landsberg, Biberman, Sushkini, Fabrikant, Z.G. Pinsker, Zakhar'yevskiy. The sections of the paper are: 1) Introduction, 2) Coherence of the electron waves, 3) Interference at the edge of an object, 4) Interference in thin crystal layers, 5) Diffraction interferometer, 6) A Fresnel double prism for electron waves (determination of the electron wave length, determination of the internal potentials, application of the Fresnel bands for the investigation of the astigmatism in electron lenses, electron interference microscopy) There are 29 figures and 24 references, 4 of which are Soviet.

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SOV/109-4-1-14/30

AUTHORS: Kabanov, A.N. and Milyutin, V.I.

TITLE: An Electrostatic Lens as a High-resolving-power Analyser of Electron Velocities (Elektrostaticheskaya linza-analizator skorostey elektronov s vysokoy razreshayushchey sposobnost'yu)

PERIODICAL: Radiotekhnika i Elektronika, 1959, Vol 4, Nr 1, pp 109 - 119 (USSR)

ABSTRACT: An analysis of the electron energies by means of an electrostatic lens was first successfully carried out by Möllenstedt (Ref 2) and since then a number of works dealing with this device has been published by various authors (Refs 3,4,5,6 and 7). It appears, however, that the properties of the device have not yet been sufficiently studied. The problem could not easily be tackled analytically and it was therefore decided to undertake an experimental investigation. The principle of a lens analyser is as follows: (Figure 2) a plane narrow electron beam having a velocity U_K , formed by a slot (whose distance from the axis of the lens is y_0) impinges on the lens; this consists of three electrodes and forms a picture of the slot on the screen of the device. The lens is at a

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An Electrostatic Lens as a High-resolving-power Analyser of Electron Velocities

potential U_L . Quantities y_0 , U_K , and U_L are so chosen that paths of the electrons are telescopic. Therefore, for a constant U_L , a change ΔU in the electron velocity causes a shift Δy_A in the picture of the slot. The magnitude of the shift caused by the change of the accelerating potential by 1V is known as the dispersion of the analyser and is denoted by δ (mm/V). The second characteristic of the analyser is its resolving power and this is expressed as $A = U/\Delta U$. The experimental equipment used in the investigations is shown in Figure 3. This employed various components of the electron microscope, type ESM-50 (Ref 9). The electron gun of the equipment (see Figure 3) consisted of a filament 1, a conical beam-forming electrode 2, and an anode 3. The electrons were accelerated between the anode and the cathode to a potential of about 30 kV; subsequently they were directed onto the diaphragm 4 of the object 5 and then onto the lens 6, which produced

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An Electrostatic Lens as a High-resolving-power Analyser of Electron Velocities

40-fold magnification of the object on the intermediate screen 7. The slot 8 in the equipment had a variable width (from 0 to 2 mm) and could be moved in two mutually perpendicular directions, so as to adjust its position with respect to the central electrode of the lens-analyser 9. The electrons were deflected by the lens and formed a velocity spectrum which could be observed on the screen 10 and photographed on the film 11. The first problem consisted of determining the optimum operating conditions for the analyser. For this purpose, it was necessary to determine the values of y_0 , R and y_A , such that the picture of the slot was as narrow as possible; y_A is the deflection of the electron beam and $R = (U_K - U_L)/U_K$.

The results of the investigation are shown in the photographs of Figures 4 and 5 and in the graphs of Figures 6, 7 and 8. The optimum conditions are obtained when $y_0 = y_{OK}$ and $R = R_K$. These values of y_0 and R are

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An Electrostatic Lens as a High-resolving-power Analyser of Electron Velocities

indicated in Figures 6 and 7. The effect of the geometrical dimensions of the lens on the value of the dispersion coefficient δ was also investigated; the results are shown graphically in Figures 9-14 and in Table 1. These curves were taken for various values of the lens thickness T and the slot width d . It was found that the dispersion was of the order of $(1-5) \cdot 10^{-2}$ mm/V. If the lens had $T = 0.4$ mm, $d = 0.35$ mm and distance between the outer electrodes of 7.4 mm, the analyser had a resolving power of 60 000:1; this is illustrated by the photometric curves of Figures 12, which were taken for the accelerating potential of 30 kV. Also the effect of the ripple voltage component in the supply potential of the analyser was investigated. The results are illustrated in the photographs of Figures 15 and 16. The effect of the electron velocity on the magnitude of the dispersion was measured by means of calibrated standards; photographs of these standards taken at $U_K = 20$ kV and $U_K = 40$ kV are shown

Card4/5 in Figures 17; from these it is concluded that the

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An Electrostatic Lens as a High-resolving-power Analyser of Electron Velocities

dispersion becomes reduced as the electron velocity is increased; in general, the reduction in the dispersion is inversely proportional to U_K . The authors thank

Yu.M. Kushnir, G.V. Der-Shvarts and D.V. Fetisov for their valuable remarks and their constant interest in this work. There are 17 figures, 1 table and 10 references, 7 of which are German, 1 French and 2 Soviet.

SUBMITTED: April 9, 1957

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SOV/109-59-4-2-21/27

AUTHORS: Kabanov, A.N. and Milyutin, V.I.

TITLE: Some Applications of the Electrostatic Analyser of
Electron Velocities (Nekotoryye primeneniya
elektrostaticheskogo analizatora skorostey elektronov)

PERIODICAL: Radiotekhnika i Elektronika, 1959, Vol 4, Nr 2,
pp 321-329 (USSR)

ABSTRACT: The analyser used in the measurements was described by
the authors in an earlier paper (Ref 18). The authors
employed the equipment to investigate the energy losses
of the electrons scattered by thin films. The spectra
were taken in the following manner. For a given
accelerating potential, the position of the slot of the
analyser was adjusted so as to obtain the "clearest"
possible image. The investigated object was then
introduced and the image of the slot was photographed on
a finite screen. The image was usually in the form of
an intense line corresponding to the elastically
scattered electrons and of several lesser lines
corresponding to the electrons which lost their initial
energy. All the measurements were done at the
accelerating potential of 30 kV. Each spectrum was

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SOV/109-59-4-2-21/27

Some Applications of the Electrostatic Analyser of Electron Velocities

photographed several times. Resolving power of the analyser was 0.6 eV. Spectra of aluminum oxide, gold, silver, antimony and aluminum and carbon films were photographed. Also the spectrum of the gases contained in the analyser at a pressure of 5×10^{-4} mm Hg were recorded. The spectrum of the aluminum oxide is shown in Fig 1, that of gold is given in Fig 2 and that of silver is in Fig 3. The spectrum of antimony is shown in Fig 4, carbon is represented by Fig 5 and aluminum is shown in Fig 6a. The spectra were used to evaluate the energy losses and these are given in the table on page 323, together with the corresponding values obtained by other authors (G. Möllenstedt, L. Marton, H. Watanabe and G. Rutheman). The effect of the ripple in the supply voltage on the performance of the analyser was investigated. The results are shown graphically in Fig 7, 8, 10 and 11, which illustrate the image of the slot as a function of the ripple in the accelerating potential and of the control-grid voltage. The authors

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SOV/109-59-4-2-21/25

Some Applications of the Electrostatic Analyser of Electron Velocities

express their gratitude to Yu.M.Kushnir for valuable advice and to L.I.Zemlyanov and V.S.Butkevich for supplying the films of various substances. There are 11 figures, 1 table and 18 references of which 2 are Soviet, 9 English, 2 French and 5 German.

SUBMITTED: 9th April 1957

Card 3/3

AUTHORS: Milyutin, V.I., Fetisov, D.V., SOV/48-23-4-5/21
Raspletin, K.K., Spektor, F.U., Pochtarev, B.I.

TITLE: Small-sized Electrostatic Microscopes
(Malogabaritnyye elektrostatischeškiye mikroskopy)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1959,
Vol 23, Nr 4, pp 454 - 458 (USSR)

ABSTRACT: First, mention is made of the electron microscopes produced industrially (EM-3, UEM-100) and the fact is pointed out that simpler and cheaper electrostatic microscopes suffice for a great part of operations. Some small-sized electrostatic microscopes have been developed. Figure 1 shows a 40 kv electrostatic table electron microscope with a 1200-5600fold magnification range and a resolving power of up to 50 Å. Next, a description is given of the instrument MESM-45, which is being considered for industrial production. The instrument consists of two units: microscope with source of current and vacuum system. The three-part electron accelerator is described, followed by the microscope slide and the lens system. Camera with fluorescence screen and plateholder and ocular tube, which features a 5fold optical magnification, are fitted

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Small-sized Electrostatic Microscopes

SOV/48-23-4-5/21

under the lens block. The vacuum system consists of the mechanical pump VN-461 and the diffusion pump MN-40-A. The diagram of the current source of the instrument is shown in figure 5. At a maximum load of 100 ~~mA~~ A the current fluctuation amounts to 0.005%. Finally, the mechanical construction and applicability are described. There are 5 figures and 2 Soviet references.

Card 2/2

AUTHORS: Kabanov, A.M., Milyutin, V.I., SOV/46-23-4-6/21
Fetisov, D.V.

TITLE: Electrostatic Analyzer of Electron Velocities up to 75 kv
(Elektrostaticheskiy analizator skorostey elektronov na 75 kV)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959,
Vol 23, Nr 4, pp 459 - 461 (USSR)

ABSTRACT: The further development of electron microscopy requires a study of electron scattering in electron microscopic objects. Such an investigation is carried out with the aid of instruments that make it possible to determine the angle and electron energy distribution upon acting ^{on} the object. The instruments hitherto employed featured electrostatic lenses and an accelerating voltage of 35-40 kv. A description is given of the difficulties arising in the adequate application of accelerating voltages up to 75 kv. Figure 1 shows the analyzer principle for a 75 kv electron beam, and figure 2 the characteristic curve and geometrical dimensions of the analyzer. In principle, the deflection of an incident beam into an electric field with known strength, and the beam

Card 1/2

Electrostatic Analyzer of Electron Velocities
up to 75 kv

SOV/48-23-4-6/21

intensity are measured with this instrument. Figure 3 shows a basic circuit diagram of the instrument. Finally, the adjustment ranges of the middle electrode potential are specified. A detailed description of the instrument will be given in a following paper. There are 3 figures.

Card 2/2

AUTHORS: Fetisov, D. V., Spektor, F. U., Milyutin, SOV/48-23-6-6/28
V. I., Raspletin, K. K.

TITLE: On the Resolving Power of Electrostatic Electronic Microscopes
(O razreshayushchey sposobnosti elektrostatičeskogo elektronno-
go mikroskopa)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959,
Vol 23, Nr 6, pp 690 - 693 (USSR)

ABSTRACT: By the influence of aberration, caused by the asymmetry of
the optical system, the chromatic aberration and other factors,
the theoretically attainable resolving power of electrostatic
electronic microscopes, which would be limited solely by
electron diffraction and spherical aberration is not attained.
In the present paper the influence exercised by the asymmetry
of the field of electrostatic lenses and of the entire optical
system, the influence of the variation of the spherical aberration
of the lenses, and the effects of the pulsation of the accelera-
tion voltage of the instrument are investigated. Field asymmetry
depends on the geometric dimensions of the individual electrodes
of the lenses, and, first of all, the connection between the
oval electrodes of the lenses and resolving power is investigated.

Card 1/2

On the Resolving Power of Electrostatic Electronic
Microscopes

SOV/48-23-6-6/28

Results obtained by measurements show an increase in resolution with a reduction of the oval shape of the lens electrodes. In a similar manner the influence exercised by the aberration from the axial arrangement and the results obtained are shown by four diagrams (Figs 2,3). A stigmatizer is then briefly described, which is partly able to eliminate these errors. For the investigation of the spherical aberration of an electrostatic objective, in which the focal plane of the lens is outside the range of the field, a schematical drawing is first given, after which a constant of aberration is introduced. This constant depends on the geometric dimensions of the middle electrode and its potential. Various adjustments are investigated, and the results obtained are shown by a table. The most satisfactory results were obtained when the focal plane was approached as far as possible to the lens. Finally, the influence exercised by the pulsation of the direct current was investigated at various amplitudes exercised by them upon resolving power. There are 5 figures, 1 table, and 3 references, 1 of which is Soviet.

Card 2/2

MILYUTIN, V.I.

Interferometry and phase electron microscopy. Usp. fiz. nauk
74 no.3:553-566 J1 '61. (MIRA 14:7)
(Interferometry) (Electron microscopy)

MILYUTIN, V.I.
MILIUTIN, V.I.

Interferential electron microscopy and with phase contrast. Analele
mat 17 no.1:173-188 Ja-Mr '63.

PANTELEYEV, Yuriy Aleksandrovich, admiral; MILYUTIN, V.I., red.

[The sea front] Morskoi front. Moskva, Voenizdat, 1965.
315 p. (MIRA 18:10)

L 21545-66 EWT(m)/T/EWP(t) JD

ACC NR: AP6008064

SOURCE CODE: UR/0032/66/032/002/0192/0194

AUTHOR: Pochtarev, V. I.; Milyutin, V. I.; Kiseleva, V. P.

ORG: none

TITLE: A method for studying the microstructure of a multislit photocathode in an electron microscope 4

SOURCE: Zavodskaya laboratoriya, v. 32, no. 2, 1966, 192-194

TOPIC TAGS: photocathode, electron microscopy, photoelectric property

ABSTRACT: A method is proposed for studying the microstructure of a semitransparent multislit photocathode in an electron microscope, and the relationship between the microstructure and the photoelectric properties of the cathode is analyzed. The experimental setup is shown in the figure. Tube 1 is 40 mm in diameter and 150 mm long. Cathode 2 has a working diameter of 25 mm. Mounted in the tube is a double knife with quartz vaporizers 3 which may be used to produce several replicas of a single specimen during preparation of the photocathode. Vaporizers of various volumes are used with a heating current of 8-10 a. Spectral analysis of the gases re-

UDC: 537.533.35

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L 21545-66

ACC NR: AP6008064

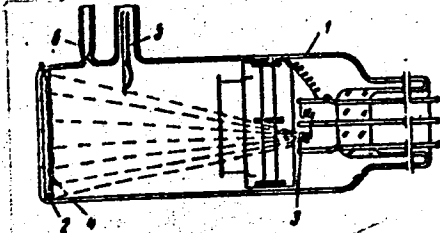


Fig. 1. Experimental tube for studying the structure of photocathodes

4 - Quartz film; 5 - antimony vaporizer; 6 - exhaust tube for cesium, potassium, and sodium.

leased during quartz vaporization showed CO and CO₂ which sometimes reduce the sensitivity of a photocathode. These photocathodes were made from antimony, potassium, sodium and cesium. Electron photomicrographs are given showing the cathode in various stages of its preparation. It was found that highly sensitive photocathodes (of the order of 150-200 $\mu\text{a/lu}$) have a comparatively uniform structure without sharply defined crystal boundaries. Photocathodes with a more clearly defined crystal structure and sharp boundaries have a moderate sensitivity of the order of 100 to 130 $\mu\text{a/lu}$. The studies showed that the structure of the photocathode develops irregularly, particularly in specimens oxidized in air. Orig. art. has: 5 figures.

[14]

SUB CODE: 20/

SUBM DATE: none/

ORIG REF: 001/

ATD PRESS: 4219

Card 2/2

BLG

VORONOV, Nikolay Nikolayevich, glavnyy marshal artillerii;
MILYUTIN, V.I., red.; ZUDINA, M.P., tekhn. red.

[In the military service] Na sluzhbe voennoi. Moskva,
Voenizdat, 1963. 436 p. (MIRA 16:12)
(Russia--Army--Artillery)

MILYUTIN, V.N.; ROSTOVTSSEV, S.T.

Device of determining the temperature of softening of fluxed
iron ore pellets. Zav. lab. 30 no.11:1408-1409 '64
(MIRA 18:1)

1. Dnepropetrovskiy metallurgicheskiy institut.

MILYUTIN, V.N.

Disorders of cortical function dynamics in hallucinations. Zhur.
nevr. i psikh. 55 no.3:182-186 '55. (MLRA 8:7)

1. Veyenno-meditsinskaya akademiya imeni S.M.Kirova.
(REFLEX, PSYCHOGALVANIC, in various diseases,
hallucinations)
(HALLUCINATIONS, psychology,
reflex, psychogalvanic)

NEUSTROYEV, V.D.; KHANDUYEV, TS.TS.; MILYUTIN, V.N.

Use of fluorescent microscopy in the detection of Miyagawanella
ornithosis in organs of infected animals [with summary in English].
Vop.virus 3 no.6:330-333 N-D '58. (MIRA 12:1)

(MIYAGAWANELLA,

ornithosis, luminescence microscopic detection
in infected organs (Rus))

NEUSTROYEV, V.D.; MILYUTIN, V.N.; KHANDUYEV, TS.TS.

Photomicrography of large viruses and Rickettsia under the fluorescent
microscope. Vop.virus. 4 no.4:502-505 J1-Ag '59. (MIRA 12:12)

(VIRUSES)

(RICKETTISA)

(PHOTOMICROGRAPHY)

NEUSTROYEV, V.D.; MILYUTIN, V.N.

Experimental study of the ornithosis virus in various stages of
development. Vop.virus. 4 no.5:597-601 S-O '59. (MIRA 13:2)
(MIYAGAWANILYA)

NEUSTROYEV, V.D.; KHANDUYEV, TS.TS.; MILYUTIN, V.N.

Count of elementary bodies of ornithosis virus using fluorescence
microscopy. Vop.virus. 4 no.6:734-737 N-D '59. (MIRA 13:3)
(MIYAGAWANELLA)
(MICROSCOPY)

MILYUTIN, V. N., Cand Med Sci -- (diss) "Materials on the ontogenesis of psittakosis virus." Moscow, 1960. 12 pp; 1 page of illustrations; (Academy of Medical Sciences USSR); 200 copies; price not given; (KL, 26-60, 143)

KRAVCHENKO, A.T.; GUDIMA, O.S.; MILYUTIN, V.N.

Studying the effect of antibiotics and specific sera on the development of viruses and rickettsia in a tissue culture by using micro-cinematography. Report No.1: Effect of penicillin on the psittacosis virus and Rickettsia burneti in tissue culture. Vop.virus. 7 no:3: 300-306 My-Je '61. (MIRA 14:7)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva.
(PENICILLIN) (RICKETTSIA) (PSITTACOSIS)

KRAVCHENKO, A.T.; MILYUTIN, V.N.; GUDIMA, O.S.

Studying the effect of antibiotics and specific sera on the development of viruses and rickettsia in a tissue culture by using microcinematography. Report No.2: Effect of terramycin on the psittacosis virus and Rickettsia burneti in tissue culture. Vop. virus. 7 no.3:307-312 My-Je '61. (MIRA 14:7)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva.
(PSITTACOSIS) (RICKETTSIA) (TERRAMYCIN)

SALTYKOV, R.A.; ZEMSKOV, Ye.M.; MILYUTIN, V.N.

Effect of toxins of pathogenic anaerobes on tissue cultures.
Biul. eksp. biol. i med. 52 no.12:43-47 D '61. (MIRA 14:12)

1. Predstavlena deystvitel'nym chlenom AMN SSSR P.F.Zdrodovskim.
(TOXINS AND ANTITOXINS) (TISSUE CULTURE)

S/020/62/144/002/027/028
B144/B101

AUTHORS: Kochetov, N. N., Gudima, O. S., and Milyutin, V. N.

TITLE: Intravital observation and motion pictures of cell development in tissue cultures

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 2, 1962, 441 - 442

TEXT: With the aid of a phase contrast microscope, motion pictures of HeLa cells suspended in 20 % horse serum + Khenks solution were taken to study the behavior of the nucleolus during mitosis. Fragmentation and transformations of the nucleolus, i. e., swelling with subsequent loss in compactness, were observed already 8 hrs before chromosomes became visible. Dissolution of the fragments coincided with distinctly marked chromosomes. Mitosis proceeded as usual. The nucleoli in the daughter cells were different in shape and sometimes in number. On the basis of these changes which were constantly observed in cell cultures of KE (KV) and Detroit-6 strains, imminent mitosis can be predicted with certainty. The varying duration of this process in cells of one and the same culture proves the inequality of cells. Mitosis does not always result in two

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Intravital observation and motion ...

S/020/62/144/002/027/028
B144/B101

daughter cells; sometimes one of them, or even both, perish in the telophase. Infection with intracellular parasites, such as rickettsia Burnet and psittacosis virus, showed that only a part of the daughter cells is infected and is thus a further proof of the inequality of cells. Transformation of the nucleolus must be regarded as a preliminary mitotic characteristic which is, however, hardly obligatory. Detailed studies may help to solve the problem of the ontogeny of cells. There are 3 figures. ✓

PRESENTED: January 12, 1962, by Yu. A. Orlov, Academician

SUBMITTED: January 10, 1962

Card 2/2

KRAVCHENKO, Anatoliy Timofeyevich; MILYUTIN, Viktor Nikolayevich;
GUDIMA, Oleg Semenovich; ANAN'YEV, V.A., red.; PARAKHINA,
N.L., tekhn. red.

[Microcinamatography in biology; cytology, virology, ricket-
tsiology] Mikrokinos"enka v biologii; tsitologiya, virusolo-
giya, rikketsiologiya. Moskva, Medgiz, 1963. 174 p.
(MIRA 16:6)

(PHOTOMICROGRAPHY) (BIOLOGICAL RESEARCH)

KLIMANOVA, M.I.; MILYUTIN, V.N. (Moskva)

Use of motion-picture photomicrography for the study of
primarily pencreatized tissue cultures from the heart of
a chicken embryo. Biul. eksp. biol. i med. 55 no.1:108-110
Ja'63. (MIRA 16:7)

1. Predstavlena deystvitel'nym chlenom AMN SSSR A.V. Lebedinskim.
(TISSUE CULTURE) (PANCREATIN)
(PHOTOMICROGRAPHY)
(EMBRYO)

PODOLYAN, V.Ya.; MILYUTIN, V.N., GUDIMA, O.S.; LUKINA, R.N.

L-transformation of viruses and rickettsia in tissue culture.
Report No. 1: L-transformation of psittacosis virus. Vop.virus.
8 no.1:24-27 Ja-F'63. (MIRA 16:6)
(PSITTACOSIS VIRUS) (TISSUE CULTURE)

PODOLYAN, V.Ya.; MILYUTIN, V.N.; GUDIMA, O.S.; LUKINA, R.N. (Moskva)

Morphogenesis of the ornithosis virus. Vop. virus. 9 no.2:208-212

Mr-Apr '64.

(MIRA 17:12)

PODOLYAN, V.Ya.; MILYUTIN, V.N.; GUDIMA, O.S.; LUKINA, R.N.

Ultrastructure of the L-form of ornithosis virus. Vop. virus. 9
no.3:306-309 My-Je '64. (MIRA 18:1)

1. Institut virusologii imeni D.I. Ivanovskogo AMN SSSR, Moskva.

MILYUTIN, V.N.; ROSTOVTSSEV, S.T.

Kinetics of the reduction of fluxed iron ore pellets by hydrogen.
Izv. vys. ucheb. zav.; Chern. met. 8 no.7:5-10 '65. (MIRA 18:7)

1. Dnepropetrovskiy metallurgicheskiy institut.

MASLOV, Yu.A., inzh.; MILYUTIN, V.S., inzh.

Technical and economic characteristics of air-electric arc
planing with lamellar electrodes. Svar. proizvod. no.9:17-19
S '65. (MIRA 18:9)

1. Ural'skiy politekhnicheskiy institut im. S.M.Kirova.

KHARINSKIY, Anatoliy Leonidovich; GIRSHMAN, G.Kh., inzh., retsensent;
ZELENIN, M.I., inzh., retsensent; KASATKIN, S.P., inzh., retsensent;
LEVENBERG, A.Z., inzh., retsensent; MILYUTIN, V.I., inzh., retsensent;
VOLGOV, V.A., kand.tekhn.nauk, red.; ZABRODINA, A.A., tekhn.red.

[Fundamentals of the design of radio parts] Osnovy konstruirovaniia
elementov radioapparatury. Moskva, Gos.energ.izd-vo, 1959. 547 p.
(Radio--Equipment and supplies) (MIRA 12:4)

S/194/62/000/001/049/066
D201/D305

AUTHOR: Milyutin, Ye. R.

TITLE: Some methods of fighting multi-path propagation

PERIODICAL: Referativnyy zhurnal, Avtomatika i radicelektronika,
no. 1, 1962, abstract 1-7-46ts (Tr. Nauchno-tekhn.
Konferentsii. Leningr. elektrotekhn. in-ta svyazi,
no. 3, L. 1961, 49-54)

TEXT: The equipment for reducing the multi-path propagation at SW and UHF radio communication lines is considered. The 'Rake' reception system, developed in the USA for preventing multi-path transmission and based on the principle of an automatically tuned delay line consists, besides a multi-path transmission simulator, of standard transmission and pause generators and of comparison devices. The gain in the attenuation of multi-path transmission as obtained by this system is greater than that of an FM system using the phased antennae reception. 3 references. /-Abstracter's note: Complete translation. 7 ✓

Card 1/1

RYZHKOV, Ye.V., dotsent; MILYUTIN, Ye.R., assistant; MARKOV, Yu.V.

Noise generator for 1 to 100 mc. frequencies. Vest. svyazi
21 no.11:16-17 N '61. (MIRA 14:11)

1. Leningradskiy elektrotekhnicheskiy institut svyazi.
2. Vedushchiy starshiy inzhener Leningradskogo elektrotekhnicheskogo instituta svyazi (for Markov).
(Oscillators, Electric)

13166
S/203/62/002/003/018/021
1023/1250

6.4400
AUTHOR: Markov, Yu.V. and Milyutin, Ye.R.

TITLE: A receiving device of increased noise-resistance for an ionospheric station

PERIODICAL: Geomagnetizm i Aeronomiya, v.2, no.3, 1962, 545-549

TEXT: Since the power of existing transmitters is sufficiently high, the ratio of signal to noise will be best increased by improving the noise resistance of receivers. The receiver described is an improved version of the receiver C-4 produced in the U.S.A. The band width is 0.5 - 25 Mc/s. The input filter is composed of high frequency filter of type m (passing frequencies above 0.5 Mc/s) and a low frequency filter of type K (passing frequencies below 26 Mc/s). A wide-band transformer is used in the convertor in order to make the grids and anodes symmetrical with respect to earth. The sensitivity of the receiver is ~ 1 microvolt with a ratio of signal to noise equal 3. The dynamical range of the receiver is 56 db. The receiver was used for two years in the IZMIRAN ionospheric station in Voetikovo. There are 2 figures, 1 table, 5 references.

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S/203/62/002/003/018/021
1023/1250

A receiving device of increased...

ASSOCIATION: Leningradskiy elektrotekhnicheskii institut svyazi im. prof. M.A. Bonch-Bruyevich; Institut zemnogo magnetizma, ionosferi i rasprostraneniya radioln Akademii nauk SSSR (The Leningrad Electrotechnical Institute of communication im. prof. M.A. Bonch-Bruyevich; Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation, Academy of Sciences USSR)

SUBMITTED: December 20, 1961

Card 2/2

MILYUTIN, Ye.R., assistant; PERTSOVSKIY, R.A.; ROGOVENKO, S.S., dotsent

Helicopter-carried system for obtaining the radiation pattern of real antennas. Vest. svyazi 22 no.5:9 My '62. (MIRA 15:5)

1. Kafedra rasprostraneniya radiovoln i antenn Leningradskogo elektrotekhnicheskogo instituta (for Milyutin). 2. Vedushchiy starshiy inzh. NIO Leningradskogo elektrotekhnicheskogo instituta svyazi (for Pertsovskiy). 3. Kafedra elektricheskikh izmereniy Leningradskogo elektrotekhnicheskogo instituta svyazi (for Rogovenko).

(Antennas (Electronics))

MILYUTIN, Ye.R., assistant; FAL'KOVSKIY, O.I., aspirant; Kholmovskaya
O.K., assistant; FRADIN, A.Z., dots., otv. red.; GAL'CHINSKAYA,
V.V., tekhn. red.

[Manual for a course project on antennas] Rukovodstvo po kurs-
vomu proektirovaniyu anten; uchebnoe posobie. Leningrad,
Leningr. elektrotekhn. in-t svyazi im. M.A. Bonch-Bruевичa.
Pt.1. 1963. 51 p. (MIRA 17:3)

MILYUTIN, Ye.R., assistant; ANTONOV, Ye.Ye., inzh.

New television transmitting antenna. Vest. svyazi 23 no.5:
3-4 My '63. (MIRA 17:4)

1. Leningradskiy elektrotekhnicheskiy institut svyazi (for
Milyutin).

ANTONOV, Ye.Ye., inzh.; MILYUTIN, Ye.R., inzh.

New receiving antenna for shortwave communication lines. Vest.
sviazi 24 no.11:5-6 N '64. (MIRA 18:2)

TIMOFEYEV-RESOVSKAYA, Ye.A.; TIMOFEYEV-RESOVSKIY, N.V.; GETSOVA,
A.B.; GILEVA, E.A.; ZHAROVA, T.V.; KULIKOVA, G.M.;
MILYUTINA, G.A.

Coefficients of the accumulation of radioisotopes of strontium,
ruthenium, cesium, and cerium by fresh-water organisms. Zool.
zhur. 39 no. 10:1449-1453 0 '60. (MIRA 13:11)

1. Department of Biophysics, Ural Branch of the U.S.S.R.
Academy of Sciences, Sverdlovsk.
(Fresh-water biology) (Radioactive substances)

S/020/60/132/05/60/069
B011/B002

AUTHORS: Timofeyev-Resovskiy, N. V., Timofeyeva-Resovskaya, Ye. A.,
Wilyutina, G. A., Getsova, A. B.

TITLE: Coefficients of the Accumulation of Radioisotopes of
Sixteen Different Elements by Fresh Water Organisms and
the Influence of Complexon EDTA on Some of Them

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 5,
pp. 1191-1194

TEXT: The accumulation coefficient (AC) of radioisotopes can be easily
determined by means of tagged atoms. By AC one understands the ratio
between the concentration of the respective isotope in an organism and
its concentration in water. Data concerning sixteen isotopes as well as
nineteen plant- and seventeen animal species are compiled in the present
paper. Moreover, experimental results are specified concerning the
influence of EDTA (ethylene diamine tetraacetate or Trilon B) upon AC.
The authors studied the accumulation coefficients of the isotopes of
P, S, Ca, Fe, Co, Zn, Ge, Rb, Sr, Y, Zr, Nb, Ru, I, Cs, and Ce. Special

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Coefficients of the Accumulation of Radio-isotopes of Sixteen Different Elements by Fresh Water Organisms and the Influence of Complexon EDTA on Some of Them

S/020/60/132/05/60/069
B011/B002

experiments revealed that AC, in the case of a micro-concentration of isotopes, is not greatly dependent on their concentration in water. Previous experiments conducted by the authors (Ref. 10) indicated that AC was rather quickly stabilized. Experiments were made in aquariums at room temperature. Fig. 1 offers a survey of AC in the case of plants and animals. It results therefrom that AC of plants are higher than those of animals with respect to all elements mentioned (except P and Sr). Furthermore, the elements form two groups: such with high (some thousands) and such with low AC. To the former belong: P, Fe, Co, Zn, Y, Zr, Nb, and Ce, to the latter all the rest, especially S, Ge, I, and Cs. With plants, the following yield especially high AC: Fe, Zn, Y, Nb, and Ce, with animals: Co, Zn, Y, Nb, and Ce. Table 1 offers numerical values of AC cross sections. It follows therefrom that in plants this value is about four times, for Sr^{90} , Y^{91} , Zr^{95} , Ru^{106} , Cs^{137} , and Ce^{144} somewhat higher than in animals. The authors offer experimental results on the EDTA influence on AC of fifteen isotopes in seven plant- and five animal species (Fig. 2). It may be seen therefrom that in the presence of EDTA,

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Coefficients of the Accumulation of Radio-isotopes of Sixteen Different Elements by Fresh Water Organisms and the Influence of Complexon EDTA on Some of Them

S/020/60/132/05/60/069
B011/B002

the accumulation coefficients of Fe, Co, Zn, Y, and Ce drop markedly (by the 10-100fold). The accumulation coefficients of Ca, Zr, Nb, Ru, and I are somewhat reduced, those of Rb, Sr, and Cs are increased, and those of all other elements are practically left almost unchanged by EDTA. The authors explain the action mechanism of EDTA in individual elements by differently high stability constants of their complex compounds with EDTA. The S, Ge, and I, which are not influenced by EDTA, probably do not form any compounds with the latter. The reduction of the accumulation coefficients of Zr, Nb, and Ru as well as the increase of those of Rb and Cs are not explained by direct EDTA action, but by a disturbance of the Ca reaction under the influence of EDTA. The most dangerous are Sr- and Cs isotopes as components of contaminated water. Possibly, the addition of Trilon B to contaminated water may promote the biological purification from isotopes. The authors made experiments in this respect. Papers by V. I. Vernadskiy (Ref. 8) and A. P. Vinogradov (Ref. 9) are mentioned. There are 2 figures, 1 table, and 16 Soviet references.

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Coefficients of the Accumulation of Radio-
isotopes of Sixteen Different Elements by
Fresh Water Organisms and the Influence of
Complexon EDTA on Some of Them


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B011/B002

ASSOCIATION: Otdel biofiziki i radiobiologii Biologicheskogo instituta
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PRESENTED: February 6, 1960, by Ye. N. Pavlovskiy, Academician

SUBMITTED: January 11, 1960

Card 4/4



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Abs Jour : Ref Zhur Biol., No 6, 1959, 26932

Author : Milyutina, L.A.

Inst : Moscow Second Medical Institute

Title : The Characteristics of Functional Changes of Neuro-Muscular Apparatus at Different Times of Nerve Degeneration.

Orig Pub : Uch. zap. 2y Mosk. med. in-t, 1958, 12, 265-273

Abstract : Beginning with the first day after separation of the sciatic nerve of the frog from the center, a gradual decrease of its excitability was noted which increased by 5-6 day after nerve transection. Bu this time labi- lity decreased. On 5-6 day excitability of the muscle decreased. The greatest decrease of lability of neuro-

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Au films produced in the surface of a AuCl_3 soln. by H or AsH_3 consist of aggregates of crystals sepd. by empty spaces. The most frequent size of the crystals was, e. g., 110-140 A. in films whose av. thickness (detd. by weighing) was 25-40 A. Films produced rapidly (e.g., 140 A. in 1 min.) have crystals of approx. identical sizes, combined into dendrites, whereas films produced slowly (e.g., 100 A. in 3 hrs.) usually consist of (often hexagonal) clusters of relatively large crystals surrounding a small crystal. These results were obtained with an electron microscope.

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Results of above study are compared with those previously obtained with thin films of Au and Pt. Hydrogen was used as the reducing agent and PdCl_2 as the salt. Results are illustrated and described. Influence of rate of reduction was particularly important.